



STIC Search Report

EIC 1700

STIC Database Tracking Number: 128286

TO: Sin J. Lee
Location: Remsen 9D60
Art Unit : 1752
December 20, 2004

Case Serial Number: 10690835

From: Les Henderson
Location: EIC 1700
REMSEN 4A30
Phone: 571/272-2538
Leslie.Henderson@uspto.gov

Search Notes

Extra results to train new searcher.



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



Priority #7

Access DB# 140127

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sim J. Lee Examiner #: 76060 Date: 11-30-04
Art Unit: 1752 Phone Number 302-7333 Serial Number: 10/690,835
Mail Box and Bldg/Room Location: 9D60 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

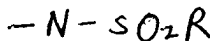
Title of Invention: _____
Inventors (please provide full names): _____
_____ DEC 15
SCIENTIFIC REFERENCE BR
Sci. & Tech. Info. Cntr.

Earliest Priority Filing Date: _____
Pat. & T.M. Office
For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for the polymer
of claim #27

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>LH</u>	NA Sequence (#) _____	STN <u>\$586.20</u>	
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____	
Searcher Location: _____	Structure (#) <u>1</u>	Questel/Orbit _____	
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____	
Date Completed: <u>12/20/04</u>	Litigation _____	Lexis/Nexis _____	
Searcher Prep & Review Time: <u>30</u>	Fulltext _____	Sequence Systems _____	
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____	
Online Time: <u>140</u>	Other _____	Other (specify) _____	

Claim 27. (new) The photoimageable composition of claim 25 wherein the photoimageable composition comprises a polymer that comprises one or more Si atoms and one or more sulfonamide groups.



Claim 28. (new) The photoimageable composition of claim 27 wherein the polymer comprises aromatic groups.

Claim 29. (new) The photoimageable composition of claim 27 wherein the polymer is substantially free of aromatic groups.

Claim 30. (new) The photoimageable composition of claim 25 wherein the photoimageable composition comprises a polymer that comprises one or more Si atoms and a distinct component that comprises one or more sulfonamide groups.

Claim 31. (new) The photoimageable composition of claim 25 wherein the photoimageable composition comprises a crosslinker.

Claim 32. (new) A phototoimageable composition comprising:
one or more photoacid generator compounds;
at least one polymer that comprises at least three distinct repeat units and one or more Si atoms;
and the polymer or one or more other components comprises one or more sulfonamide groups.

Claim 33. (new) The photoimageable composition of claim 32 wherein the one or more of the polymer repeat units comprise one or more photoacid labile groups.

=> d his ful

(FILE 'HOME' ENTERED AT 09:20:07 ON 20 DEC 2004)

FILE 'HCA' ENTERED AT 09:20:15 ON 20 DEC 2004

E US20040161698/PN

L1 1 SEA ABB=ON PLU=ON US20040161698/PN
 D SCAN
 D ALL
 SEL L1 RN

FILE 'REGISTRY' ENTERED AT 09:21:43 ON 20 DEC 2004

L2 16 SEA ABB=ON PLU=ON (10025-78-2/BI OR 107-11-9/BI OR 124-63-0/B
 I OR 287923-92-6/BI OR 34310-32-2/BI OR 421-83-0/BI OR
 423166-18-1/BI OR 44584-35-2/BI OR 631896-39-4/BI OR 685901-31-
 9/BI OR 685901-32-0/BI OR 685901-33-1/BI OR 685901-34-2/BI OR
 685901-36-4/BI OR 685901-37-5/BI OR 95-10-3/BI)
 D SCAN
 D L2 1-16 RN STR

FILE 'LREGISTRY' ENTERED AT 10:14:56 ON 20 DEC 2004

L3 STRUCTURE

FILE 'REGISTRY' ENTERED AT 10:19:37 ON 20 DEC 2004

L4 SCR 2043
 L5 11 SEA SSS SAM L3 AND L4
 D SCAN
 D QUE STAT
 L6 STRUCTURE L3
 L7 11 SEA SSS SAM L6 AND L4
 D SCAN
 L8 141 SEA SSS FUL L6 AND L4
 D QUE STAT
 E 685901-37-5/RN
 L9 1 SEA ABB=ON PLU=ON 685901-37-5/RN
 D SCAN
 SAV L8 LEE835/A
 E 685901-36-4/RN
 L10 1 SEA ABB=ON PLU=ON 685901-36-4/RN
 D SCAN
 E 685901-33-1/RN
 L11 1 SEA ABB=ON PLU=ON 685901-33-1/RN
 D SCAN
 E 685901-32-0/RN
 L12 1 SEA ABB=ON PLU=ON 685901-32-0/RN
 D SCAN
 E 685901-31-9/RN
 L13 1 SEA ABB=ON PLU=ON 685901-31-9/RN
 D SCAN
 D SCAN
 L14 2 SEA ABB=ON PLU=ON L8 AND (L9 OR L10 OR L11 OR L12 OR L13)
 D SCAN

FILE 'HCA' ENTERED AT 10:35:29 ON 20 DEC 2004

L15 53 SEA ABB=ON PLU=ON L8
 L16 1 SEA ABB=ON PLU=ON L9
 L17 1 SEA ABB=ON PLU=ON L10
 L18 1 SEA ABB=ON PLU=ON L11
 L19 1 SEA ABB=ON PLU=ON L12

L20 3 SEA ABB=ON PLU=ON L13
 D SCAN L16
 L21 1 SEA ABB=ON PLU=ON L16 OR L17 OR L18 OR L19
 L22 3 SEA ABB=ON PLU=ON L21 OR L20
 D SCAN
 L23 53 SEA ABB=ON PLU=ON L22 OR L15
 E PHOTORESISTS/CT
 E E3+ALL/CT
 E RESISTS/CT
 E E3+ALL/CT
 L24 82107 SEA ABB=ON PLU=ON RESIST OR RESISTS OR PHOTORESIST? OR
 (PHOTO# OR POSITIVE OR NEGATIVE) (A) (RESIST# OR LITHOG?)
 L25 8 SEA ABB=ON PLU=ON L24 AND L23
 D SCAN
 E PHOTOIMAG/CT
 E E4+ALL/CT
 E PHOTOIMAG/CT
 E E5+ALL/CT
 L26 10747 SEA ABB=ON PLU=ON PHOTOIMAG? OR PHOTO(2A) IMAG?
 L27 2 SEA ABB=ON PLU=ON L26 AND L23
 L28 9 SEA ABB=ON PLU=ON L25 OR L27

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 L29 STRUCTURE L6
 L30 STRUCTURE L6

 FILE 'REGISTRY' ENTERED AT 11:11:07 ON 20 DEC 2004
 L31 50 SEA SSS SAM L4 AND L29
 D QUE STAT
 D QUE STAT L30
 L32 26 SEA SSS SAM L29 AND L30 AND L4
 L33 387 SEA SSS FUL L29 AND L30 AND L4
 D QUE STAT

 FILE 'HCA' ENTERED AT 11:16:43 ON 20 DEC 2004
 L34 145 SEA ABB=ON PLU=ON L33

 FILE 'REGISTRY' ENTERED AT 11:17:21 ON 20 DEC 2004
 SAV L33 LEE835A/A
 D SAV

 FILE 'HCA' ENTERED AT 11:18:37 ON 20 DEC 2004
 L35 25 SEA ABB=ON PLU=ON L34 AND (L24 OR L26)
 D SCAN
 L36 25 SEA ABB=ON PLU=ON L35 OR L28
 D QUE STAT
 D SCAN
 L37 18 SEA ABB=ON PLU=ON L36 AND REPROGRAPH?/SC,SX
 L38 7 SEA ABB=ON PLU=ON L36 NOT L37
 D SCAN
 L39 2 SEA ABB=ON PLU=ON (PHOTORESIST? OR PHOTOIMAG? OR PHOTO(A) (IMA
 G? OR RESIST?)) AND L38
 D SCAN
 L40 20 SEA ABB=ON PLU=ON L37 OR L39

=> => d que stat l8

L4 SCR 2043

L6 STR

N~~SO2 Si 3
1 2

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE
L8 141 SEA FILE=REGISTRY SSS FUL L6 AND L4

100.0% PROCESSED 414 ITERATIONS 141 ANSWERS
SEARCH TIME: 00.00.01

=> d que stat 133
L4 SCR 2043
L29 STR

N~~SO2
1 2

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE
L30 STR

Si 1

NODE ATTRIBUTES:
NSPEC IS RC AT 1
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 1

STEREO ATTRIBUTES: NONE
L33 387 SEA FILE=REGISTRY SSS FUL L29 AND L30 AND L4

100.0% PROCESSED 414 ITERATIONS 387 ANSWERS
SEARCH TIME: 00.00.01

=> => d que stat 140
L4 SCR 2043

L6 STR

N~~SO2 Si 3
1 2

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L8 141 SEA FILE=REGISTRY SSS FUL L6 AND L4
L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON 685901-37-5/RN
L10 1 SEA FILE=REGISTRY ABB=ON PLU=ON 685901-36-4/RN
L11 1 SEA FILE=REGISTRY ABB=ON PLU=ON 685901-33-1/RN
L12 1 SEA FILE=REGISTRY ABB=ON PLU=ON 685901-32-0/RN
L13 1 SEA FILE=REGISTRY ABB=ON PLU=ON 685901-31-9/RN
L15 53 SEA FILE=HCA ABB=ON PLU=ON L8
L16 1 SEA FILE=HCA ABB=ON PLU=ON L9
L17 1 SEA FILE=HCA ABB=ON PLU=ON L10
L18 1 SEA FILE=HCA ABB=ON PLU=ON L11
L19 1 SEA FILE=HCA ABB=ON PLU=ON L12
L20 3 SEA FILE=HCA ABB=ON PLU=ON L13
L21 1 SEA FILE=HCA ABB=ON PLU=ON L16 OR L17 OR L18 OR L19
L22 3 SEA FILE=HCA ABB=ON PLU=ON L21 OR L20
L23 53 SEA FILE=HCA ABB=ON PLU=ON L22 OR L15
L24 82107 SEA FILE=HCA ABB=ON PLU=ON RESIST OR RESISTS OR PHOTORESIST?
OR (PHOTO# OR POSITIVE OR NEGATIVE) (A) (RESIST# OR LITHOG?)
L25 8 SEA FILE=HCA ABB=ON PLU=ON L24 AND L23
L26 10747 SEA FILE=HCA ABB=ON PLU=ON PHOTOIMAG? OR PHOTO(2A)IMAG?
L27 2 SEA FILE=HCA ABB=ON PLU=ON L26 AND L23
L28 9 SEA FILE=HCA ABB=ON PLU=ON L25 OR L27
L29 STR

N~~SO2
1 2

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE

L30 STR

Si 1

NODE ATTRIBUTES:
NSPEC IS RC AT 1
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 1

STEREO ATTRIBUTES: NONE

L33 387 SEA FILE=REGISTRY SSS FUL L29 AND L30 AND L4
L34 145 SEA FILE=HCA ABB=ON PLU=ON L33
L35 25 SEA FILE=HCA ABB=ON PLU=ON L34 AND (L24 OR L26)
L36 25 SEA FILE=HCA ABB=ON PLU=ON L35 OR L28
L37 18 SEA FILE=HCA ABB=ON PLU=ON L36 AND REPROGRAPH?/SC, SX
L38 7 SEA FILE=HCA ABB=ON PLU=ON L36 NOT L37
L39 2 SEA FILE=HCA ABB=ON PLU=ON (PHOTORESIST? OR PHOTOIMAG? OR
PHOTO(A) (IMAG? OR RESIST?)) AND L38
L40 20 SEA FILE=HCA ABB=ON PLU=ON L37 OR L39

=> d 140 1-20 cbib abs hitstr hitind

L40 ANSWER 1 OF 20 HCA COPYRIGHT 2004 ACS on STM
141:429661 **Photoresists** comprising fluorinated silsesquioxanes.
Kanagasabapathy, Subbareddy; Barclay, George G. (USA). U.S. Pat. Appl.
Publ. US 2004229159 A1 20041118, 16 pp. (English). CODEN: USXXCO.
APPLICATION: US 2004-785424 20040223. PRIORITY: US 2003-PV449735
20030223.

AB **Photoresist** compns. are provided that comprises one or more
photoacid generator compds. and a silsesquioxane resin. Preferred
photoresists of the invention can exhibit reduced outgassing when
exposed to laser radiation, including ArF exposures.

IT **753003-46-2P**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)
(**photoresists** comprising fluorinated silsesquioxane)

RN 753003-46-2 HCA
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 6-(trichlorosilyl)-,
1,1-dimethylethyl ester, polymer with 1,1,1-trifluoro-N-[[6-
(trichlorosilyl)bicyclo[2.2.1]hept-2-yl)methyl]methanesulfonamide (9CI)
(CA INDEX NAME)

CM 1

CRN 799763-30-7

CMF C9 H13 Cl3 F3 N O2 S Si

CCI IDS

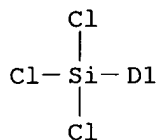
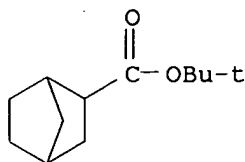
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 365546-65-2

CMF C12 H19 Cl3 O2 Si

CCI IDS



CM 3

CRN 7732-18-5

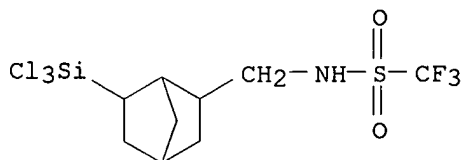
CMF H2 O

H₂OIT **685901-31-9P**

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of fluorinated silsesquioxane)

RN 685901-31-9 HCA

CN Methanesulfonamide, 1,1,1-trifluoro-N-[[6-(trichlorosilyl)bicyclo[2.2.1]hept-2-yl]methyl]- (9CI) (CA INDEX NAME)



IC ICM G03C001-76

NCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other **Reprographic** Processes)

Section cross-reference(s): 38

ST fluorinated polymer silsesquioxane pos **photoresist** chem amplified

IT Positive **photoresists**(fluorinated si-polymers and **photoresists** comprising same)

IT Silsesquioxanes

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

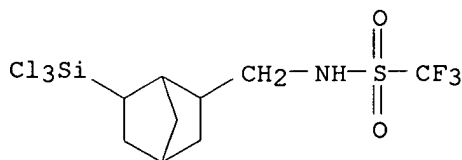
(fluorine-containing; fluorinated si-polymers and **photoresists** comprising same)

IT Fluoropolymers, properties

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(silsesquioxane-; fluorinated si-polymers and **photoresists**)

- comprising same)
- IT 753003-44-OP **753003-46-2P** 753003-49-5P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (**photoresists** comprising fluorinated silsesquioxane)
- IT 795306-21-7
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (**photoresists** comprising fluorinated silsesquioxane)
- IT **685901-31-9P**
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of fluorinated silsesquioxane)
- L40 ANSWER 2 OF 20 HCA COPYRIGHT 2004 ACS on STN
- 141:251436 Silicon-containing fluorinated polymers and **photoresists** comprising same. Barclay, George G.; Kanagasabapathy, Subbareddy; Pohlers, Gerhard (Rohm and Haas Electronic Materials, L.L.C., USA). Eur. Pat. Appl. EP 1455229 A1 20040908, 22 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK, HR. (English). CODEN: EPXXDW. APPLICATION: EP 2004-250947 20040223. PRIORITY: US 2003-PV449787 20030223.
- AB **Photoimageable** compns. are provided that contain Si-polymers that have a specified ratio of fluorine atoms to Si atoms. Preferred **photoresists** of the invention can exhibit enhanced resistance to plasma etchants.
- IT **685901-31-9P**
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of silicon-containing fluorinated polymers for **photoresists**)
- RN 685901-31-9 HCA
- CN Methanesulfonamide, 1,1,1-trifluoro-N-[[6-(trichlorosilyl)bicyclo[2.2.1]hept-2-yl]methyl]- (9CI) (CA INDEX NAME)



- IT **753003-46-2P**
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation of silicon-containing fluorinated polymers for **photoresists**)
- RN 753003-46-2 HCA
- CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 6-(trichlorosilyl)-, 1,1-dimethylethyl ester, polymer with 1,1,1-trifluoro-N-[[6-(trichlorosilyl)bicyclo[2.2.1]hept-2-yl]methyl]methanesulfonamide (9CI) (CA INDEX NAME)
- CM 1
- CRN 799763-30-7
- CMF C9 H13 Cl3 F3 N O2 S Si

CCI IDS

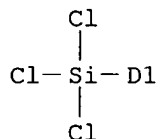
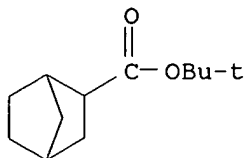
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 365546-65-2

CMF C12 H19 C13 O2 Si

CCI IDS



CM 3

CRN 7732-18-5

CMF H2 O

H₂O

IC ICM G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

Section cross-reference(s): 35, 38

ST silicon fluorinated polymer **photoresist**

IT Etching

(plasma; silicon-containing fluorinated polymers for **photoresists**)IT **Photoresists**(silicon-containing fluorinated polymers for **photoresists**)IT 95-10-3, Bicyclo[2.2.1]hept-5-ene-2-methanamine 421-83-0,
Trifluoromethanesulfonylchloride 10025-78-2, Trichlorosilane
196314-61-1 423166-18-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of silicon-containing fluorinated polymers for **photoresists**)IT 287923-92-6P **685901-31-9P** 685901-34-2P 753003-49-5DP,
hydrolizedRL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)(preparation of silicon-containing fluorinated polymers for **photoresists**)IT 753003-44-0P **753003-46-2P**RL: SPN (Synthetic preparation); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)(preparation of silicon-containing fluorinated polymers for **photoresists**)

)

L40 ANSWER 3 OF 20 HCA COPYRIGHT 2004 ACS on STN

140:397367 **Photoresists** containing sulfonamide component. Barclay, George G.; Kanagasabapathy, Subbareddy (Shipley Company L.L.C., USA). PCT Int. Appl. WO 2004037866 A2 20040506, 41 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US33676 20031021. PRIORITY: US 2002-PV420056 20021021.

AB The present invention relates to **photoresist** compns. that contain one or more components having sulfonamide and Si substitution. Preferred **photoresist** compns. of the invention contain an Si-polymer such as a silsesquioxane that has sulfonamide substitution and may be employed in multilayer **resist** systems. In preferred aspects, the Si-polymer has both sulfonamide substitution as well as moieties that can provide contrast upon exposure to photogenerated acid.

IT **685901-36-4P 685901-37-5P**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**photoresists** containing sulfonamide component)

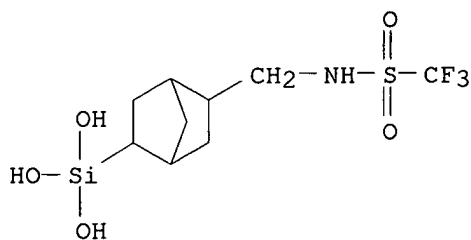
RN 685901-36-4 HCA

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5-(trihydroxysilyl)-, 1,1-dimethylethyl ester, polymer with 1,1,1-trifluoro-N-[[5-(trihydroxysilyl)bicyclo[2.2.1]hept-2-yl]methyl]methanesulfonamide (9CI) (CA INDEX NAME)

CM 1

CRN 685901-35-3

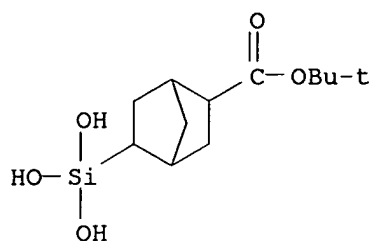
CMF C9 H16 F3 N O5 S Si



CM 2

CRN 650608-96-1

CMF C12 H22 O5 Si



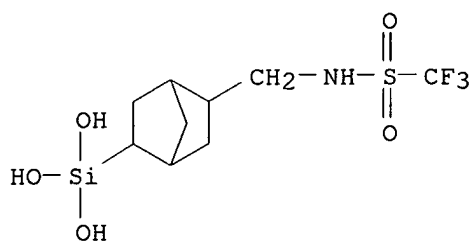
RN 685901-37-5 HCA

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5-(trihydroxysilyl)-, 1,1-dimethylethyl ester, polymer with methylsilanetriol and 1,1,1-trifluoro-N-[[5-(trihydroxysilyl)bicyclo[2.2.1]hept-2-yl]methyl]methanesulfonamide (9CI) (CA INDEX NAME)

CM 1

CRN 685901-35-3

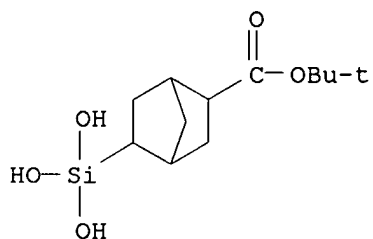
CMF C9 H16 F3 N O5 S Si



CM 2

CRN 650608-96-1

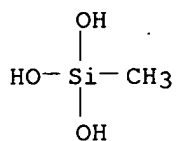
CMF C12 H22 O5 Si



CM 3

CRN 2445-53-6

CMF C H6 O3 Si



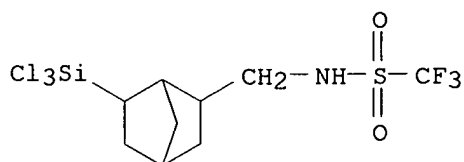
IT 685901-31-9P 685901-32-0P 685901-33-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of sulfonamide component for **photoresists**)

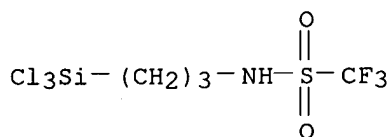
RN 685901-31-9 HCA

CN Methanesulfonamide, 1,1,1-trifluoro-N-[[6-(trichlorosilyl)bicyclo[2.2.1]hept-2-yl]methyl]- (9CI) (CA INDEX NAME)



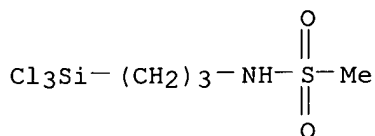
RN 685901-32-0 HCA

CN Methanesulfonamide, 1,1,1-trifluoro-N-[3-(trichlorosilyl)propyl]- (9CI) (CA INDEX NAME)



RN 685901-33-1 HCA

CN Methanesulfonamide, N-[3-(trichlorosilyl)propyl]- (9CI) (CA INDEX NAME)



IC ICM C08F

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other **Reprographic** Processes)

Section cross-reference(s): 35, 38

ST **photoresist** sulfonamide component silsesquioxane

IT **Photoresists**

(**photoresists** containing sulfonamide component)

IT Silsesquioxanes

RL: TEM (Technical or engineered material use); USES (Uses)

(**photoresists** containing sulfonamide component)

IT 685901-36-4P 685901-37-5P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

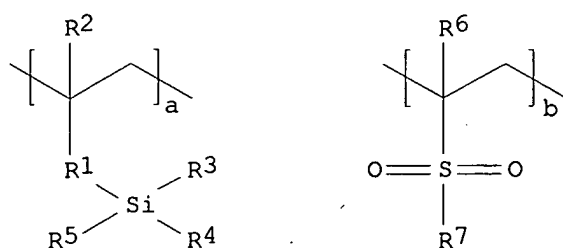
(**photoresists** containing sulfonamide component)

IT 95-10-3, Bicyclo[2.2.1]hept-5-ene-2-methanamine 107-11-9, Allyl amine
 124-63-0, Methanesulfonylchloride 421-83-0,
 Trifluoromethanesulfonylchloride 10025-78-2, Trichlorosilane
 423166-18-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of sulfonamide component for **photoresists**)

IT 34310-32-2P 44584-35-2P 287923-92-6P 631896-39-4P
685901-31-9P 685901-32-0P 685901-33-1P
 685901-34-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of sulfonamide component for **photoresists**)

L40 ANSWER 4 OF 20 HCA COPYRIGHT 2004 ACS on STN
 140:136424 Silicon-containing polymer, **photoresist** composition and
 patterning process. Hatakeyama, Jun; Takeda, Takanobu; Ishihara,
 Toshinobu (Japan). U.S. Pat. Appl. Publ. US 2004013980 A1 20040122, 36
 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-611261 20030702.
 PRIORITY: JP 2002-192910 20020702.

GI



AB The present invention relates to silicon-containing polymers comprising
 recurring units of I (R1 = single bond, alkylene; R2 = hydrogen, alkyl;
 R3-5 = alkyl, haloalkyl, aryl or silicon-containing group; R6 = hydrogen, Me,
 cyano or -C(=O)OR8; R8 = hydrogen, alkyl, acid labile group; R7 = alkyl,
 -NR9R10, -OR11; R9-11 = hydrogen or alkyl; a, b = pos. nos. satisfying
 0<a+b≤1). **Resist** compns. comprising the polymers are
 sensitive to high-energy radiation and have a high sensitivity and resolution
 at a wavelength of less than 300 nm and improved resistance to oxygen
 plasma etching.

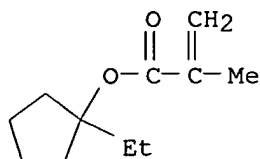
IT **648895-21-0P**
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (silicon-containing polymer, **resist** composition for patterning
 process)

RN 648895-21-0 HCA
 CN 2-Propenoic acid, 2-methyl-, 1-ethylcyclopentyl ester, polymer with
 N,N-dimethylethanesulfonamide and ethenyltrimethylsilane (9CI) (CA INDEX
 NAME)

CM 1

CRN 266308-58-1

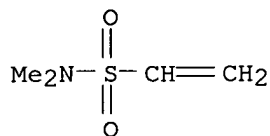
CMF C11 H18 O2



CM 2

CRN 7700-07-4

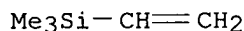
CMF C4 H9 N O2 S



CM 3

CRN 754-05-2

CMF C5 H12 Si



IC ICM H01B001-00

ICS C08J003-00

NCL 430311000; 252500000; 524262000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

Section cross-reference(s): 35, 38

ST silicon polymer **photoresist** compn patterning process

IT Photolithography

Photoresists(silicon-containing polymer, **resist** composition and patterning process)

IT 648895-18-5P 648895-19-6P 648895-20-9P **648895-21-0P**
 648895-22-1P 648895-23-2P 648895-24-3P 648895-25-4P 648895-26-5P
 648895-27-6P 648895-28-7P 648895-29-8P 648895-30-1P 648895-31-2P
 648895-33-4P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)(silicon-containing polymer, **resist** composition for patterning process)

L40 ANSWER 5 OF 20 HCA COPYRIGHT 2004 ACS on STN

138:212565 Production method of electroluminescent component using hydrophilic
 pattern and printing process. Aoki, Daigo; Suzuki, Satoshi (Dai Nippon
 Printing Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003059655 A2
 20030228, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-242160
 20010809.

AB The invention refers to a production method of an electroluminescent component
 wherein a printing plate with patterned hydrophilic regions are formed on

a surface with variable wettability, coating material to form the organic electroluminescent layer is placed on the hydrophilic regions, and the organic material is printed onto a substrate, in order to easily form patterns with high detail.

IT 293741-64-7

RL: DEV (Device component use); USES (Uses)

(production method of electroluminescent component using hydrophilic pattern and printing process)

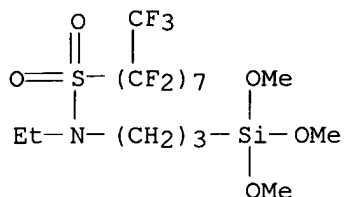
RN 293741-64-7 HCA

CN 1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-N-[3-(trimethoxysilyl)propyl]-, polymer with trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 61660-12-6

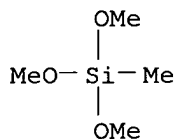
CMF C16 H20 F17 N O5 S Si



CM 2

CRN 1185-55-3

CMF C4 H12 O3 Si



IC ICM H05B033-10

ICS G09F009-00; G09F009-30; H05B033-12; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74

ST electroluminescent device printing plate transfer photoresist

IT 220946-52-1, ST-K 01 293741-64-7

RL: DEV (Device component use); USES (Uses)

(production method of electroluminescent component using hydrophilic pattern and printing process)

L40 ANSWER 6 OF 20 HCA COPYRIGHT 2004 ACS on STN

138:80796 Material and method for making an electroconductive pattern. Lamotte, Johan (Agfa-Gevaert, Belg.). PCT Int. Appl. WO 2003001537 A1 20030103, 28 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,

UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW:
 AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR,
 IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English).
 CODEN: PIXXD2. APPLICATION: WO 2002-EP6744 20020618. PRIORITY: EP
 2001-202423 20010622.

AB A material for making an electroconductive pattern, the material
 comprising a support and a light-exposure differentiable element,
 characterized in that the light-exposure differentiable element comprises
 a conductivity enhanced outermost layer containing a polyanion and a polymer or
 copolymer of a substituted or unsubstituted thiophene, and optionally a
 2nd layer contiguous with the outermost layer; and wherein the outermost
 layer and/or the optional 2nd layer contains a monodiazonium salt capable
 upon exposure of reducing the conductivity of the exposed parts of the
 outermost

layer relative to the unexposed parts of the outermost layer and a method
 of making an electroconductive pattern.

IT **391957-50-9**

RL: NUU (Other use, unclassified); USES (Uses)

(conductive coating dispersion constituent; material and method for
 making electroconductive pattern)

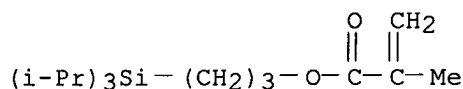
RN 391957-50-9 HCA

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with
 [4-[(2-methyl-1-oxo-2-propenyl)amino]phenyl]diazenesulfonic acid
 monosodium salt and 3-[tris(1-methylethyl)silyl]propyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 391957-49-6

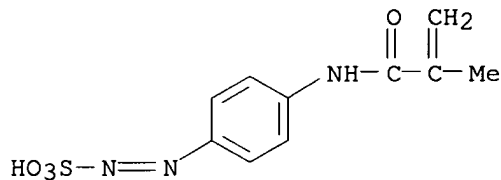
CMF C16 H32 O2 Si



CM 2

CRN 147073-18-5

CMF C10 H11 N3 O4 S . Na

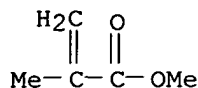


● Na

CM 3

CRN 80-62-6

CMF C5 H8 O2



IC ICM H01B001-12
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
 Section cross-reference(s): 35, 38, 76
 IT Electric corona
 Glow discharge
Photoresists
 Positive **photoresists**
 (material and method for making electroconductive pattern)
 IT 872-50-4, N-Methyl-pyrrolidone, uses 1336-21-6, Ammonium hydroxide
 2530-83-8, 3-Glycidoxypyrrolidone 2657-00-3 5114-93-2
 9016-45-9, Arkopal N 060 9016-83-5, Cresol formaldehyde copolymer
 9070-36-4, 4-Diazodiphenylamine sulfate-formaldehyde copolymer
 11003-19-3, Arkopon T 23295-00-3 25053-88-7, p-Cresol-formaldehyde
 copolymer 25212-88-8, Ethyl acrylate-methacrylic acid copolymer
 26022-07-1, Methyl methacrylate-butadiene-itaconic acid copolymer
 26761-64-8, Ultravon W 27379-75-5, Vinylidene chloride-methyl
 methacrylate-itaconic acid copolymer 34031-08-8, Terephthalic
 acid-isophthalic acid-ethylene glycol-5-sulfoisophthalic acid copolymer
 50851-57-5, Poly(styrene sulfonic acid) 51257-93-3 56791-83-4,
 4-Diazodiphenylamine p-toluene sulfonate-formaldehyde copolymer
 62428-08-4, 4-Diazodiphenylamine tetrafluoroborate-formaldehyde copolymer
 80370-33-8 114535-83-0, Fairmount Diazo 8 122525-99-9, Zonyl FSO 100
 126213-51-2, Poly(3,4-ethylenedioxythiophene) 147073-18-5 147073-19-6
 189311-21-5 190086-16-9, Negalux N 18 195460-07-2, AZ 7217
 391957-44-1 391957-45-2 391957-46-3 391957-47-4 391957-48-5
391957-50-9 391957-51-0 391957-52-1 391957-53-2
 391957-54-3 391957-55-4 391957-56-5 391957-57-6 391957-58-7
 391957-59-8 391957-60-1 391957-61-2 391957-62-3 391957-63-4
 391957-64-5 391957-65-6 391957-66-7 391957-68-9 391957-71-4
 391957-73-6 391957-74-7 391957-75-8 391957-76-9
 RL: NUU (Other use, unclassified); USES (Uses)
 (conductive coating dispersion constituent; material and method for
 making electroconductive pattern)

I40 ANSWER 7 OF 20 HCA COPYRIGHT 2004 ACS on STN

137:233050 Photolabile ultrathin films for spatially defined attachment of
 nanoobjects. Voit, B.; Braun, F.; Loppacher, Ch.; Trogisch, S.; Eng, L.
 (Institute of Polymer Research Dresden, Dresden, 01069, Germany).
 Polymeric Materials Science and Engineering, 87, 407-408 (English) 2002.
 CODEN: PMSEGD. ISSN: 0743-0515. Publisher: American Chemical Society.

AB Thin functional films which can be activated or deactivated by laser
 irradiation were obtained by two approaches. The first method is based on
 covalent bonding of diazosulfonate group-containing methacrylate copolymers to
 a Si substrate via trimethoxysilane side chain and spin coating; upon
 UV-irradiation by a Hg Xe lamp or a UV laser, the diazosulfonate groups were
 destroyed on selected areas leaving some groups available to adsorb metals
 or nanoparticles. The second method is based on self-assembled monolayers
 of polymethacrylates containing amine groups protected by a photolabile unit;
 after irradiation of selected areas, free amine groups can be charged or used
 to bind functional nanoobjects like DNA strands. The methacrylate polymer
 is a copolymer of Me methacrylate, 3-(trimethoxysilyl)propyl methacrylate

and N-NVOC--aminopropyl methacrylamide.

IT **457915-99-0P**

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); PROC (Process)
(preparation and selective UV removal of photolabile groups in polymethacrylate ultrathin films and spatially defined attachment of nanoobjects)

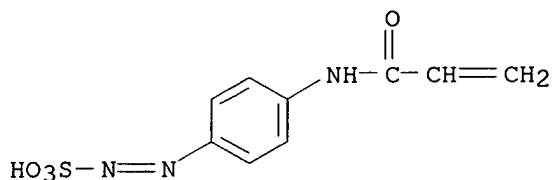
RN 457915-99-0 HCA

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with [4-[(1-oxo-2-propenyl)amino]phenyl]diazenesulfonic acid monosodium salt and 3-(triethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 165676-82-4

CMF C9 H9 N3 O4 S . Na

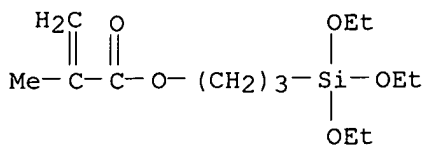


● Na

CM 2

CRN 21142-29-0

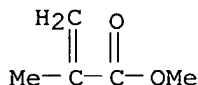
CMF C13 H26 O5 Si



CM 3

CRN 80-62-6

CMF C5 H8 O2



CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 73

IT **Photoimaging**

(area selective UV; preparation and selective UV removal of photolabile

groups in polymethacrylate ultrathin films and spatially defined attachment of nanoobjects)

IT 457915-99-0P ,

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); PROC (Process)
(preparation and selective UV removal of photolabile groups in polymethacrylate ultrathin films and spatially defined attachment of nanoobjects)

L40 ANSWER 8 OF 20 HCA COPYRIGHT 2004 ACS on STN

136:207722 Positive-working lithographic master plate having specific siloxane resin in recording layer for IR-laser direct imaging. Oda, Akio; Nakamura, Ipppei (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002062660 A2 20020228, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-246687 20000816.

AB The title master plate has a pos.-working recording layer containing a water-insol. alkali-soluble resin, which increases the solubility in an alkali by

IR irradiation, and an IR-absorbing agent on a support, wherein the resin has a siloxane structure. The master plate, which has the siloxane resin in the recording layer, provides the improved latitude for development and the high scratch-resistance.

IT 401606-76-6P, N-(p-Aminosulfonylphenyl)methacrylamide-ethyl methacrylate-acrylonitrile-3-[Tris(trimethylsiloxy)silyl]propyl methacrylate copolymer

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(resin having siloxane structure in pos.-working lithog. master plate)

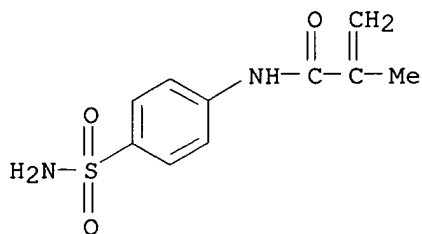
RN 401606-76-6 HCA

CN 2-Propenoic acid, 2-methyl-, ethyl ester, polymer with N-[4-(aminosulfonyl)phenyl]-2-methyl-2-propenamide, 2-propenenitrile and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 56992-87-1

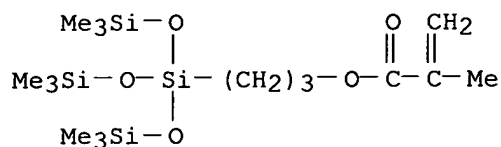
CMF C10 H12 N2 O3 S



CM 2

CRN 17096-07-0

CMF C16 H38 O5 Si4



CM 3

CRN 107-13-1

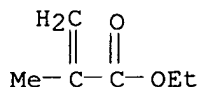
CMF C3 H3 N



CM 4

CRN 97-63-2

CMF C6 H10 O2



IC ICM G03F007-075

ICS B41C001-055; B41N001-14; C08L061-14; G03F007-00; G03F007-004; C08K005-00; C08L101-02

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos lithog master plate siloxane resin laser imaging

IT 56992-87-1P, N-(p-Aminosulfonylphenyl)methacrylamide **401606-76-6P**, N-(p-Aminosulfonylphenyl)methacrylamide-ethyl methacrylate-acrylonitrile-3-[Tris(trimethylsiloxy)silyl]propyl methacrylate copolymer
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (resin having siloxane structure in pos.-working lithog. master plate)

L40 ANSWER 9 OF 20 HCA COPYRIGHT 2004 ACS on STN

136:142701 Material and method for making an electroconductive pattern.

Lamotte, Johan; Louwet, Frank; Van Damme, Marc; Vermeersch, Joan; Van Aert, Hubertus; Groenendaal, Lambertus (Agfa-Gevaert, Belg.). PCT Int. Appl. WO 2002006898 A2 20020124, 62 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-EP7083 20010622. PRIORITY: EP 2000-202216 20000626.

AB It is an aspect of the present invention to provide a material having an outermost layer that can be processed to an electroconductive pattern by a simple, convenient method that involves a low number of steps and which does not require the use of hazardous chems. A material for making an

electroconductive pattern is presented, the material comprising a support and a light-exposure differentiable element, characterized in that the light-exposure differentiable element comprises an outermost layer containing a polyanion and a polymer or copolymer of a substituted or unsubstituted thiophene, and optionally a 2nd layer contiguous with the outermost layer; and in which the outermost layer and/or the optional 2nd layer contains a light-sensitive component capable upon exposure of changing the removability of the exposed parts of the outermost layer relative to the unexposed parts of the outermost layer; and a method of making an electroconductive pattern on a support using the material for making an electroconductive pattern.

IT 391957-50-9

RL: NUU (Other use, unclassified); USES (Uses)

(conductive coating dispersion constituent; material and method for making electroconductive pattern)

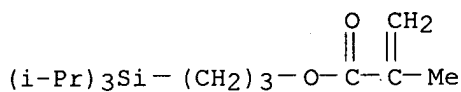
RN 391957-50-9 HCA

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with
[4-[(2-methyl-1-oxo-2-propenyl)amino]phenyl]diazenesulfonic acid
monosodium salt and 3-[tris(1-methylethyl)silyl]propyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 391957-49-6

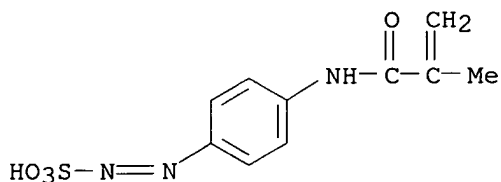
CMF C16 H32 O2 Si



CM 2

CRN 147073-18-5

CMF C10 H11 N3 O4 S . Na

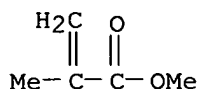


● Na

CM 3

CRN 80-62-6

CMF C5 H8 O2



- IC ICM G03F
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
 Section cross-reference(s): 35, 38, 76
 IT Electric corona
 Glow discharge
Photoresists
 Positive **photoresists**
 (material and method for making electroconductive pattern)
 IT 872-50-4, N-Methyl-pyrrolidone, uses 1336-21-6, Ammonium hydroxide
 2530-83-8, 3-Glycidoxypropyltrimethoxysilane 2657-00-3 5114-93-2
 9016-45-9, Arkopal N 060 9016-83-5, Cresol formaldehyde copolymer
 9070-36-4, 4-Diazodiphenylamine sulfate-formaldehyde copolymer
 11003-19-3, Arkopon T 23295-00-3 25053-88-7, p-Cresol-formaldehyde
 copolymer 25212-88-8, Ethyl acrylate-methacrylic acid copolymer
 26022-07-1, Methyl methacrylate-butadiene-itaconic acid copolymer
 26761-64-8, Ultravon W 27379-75-5, Vinylidene chloride-methyl
 methacrylate-itaconic acid copolymer 34031-08-8, Terephthalic
 acid-isophthalic acid-ethylene glycol-5-sulfoisophthalic acid copolymer
 50851-57-5, Poly(styrene sulfonic acid) 51257-93-3 56791-83-4,
 4-Diazodiphenylamine p-toluene sulfonate-formaldehyde copolymer
 62428-08-4, 4-Diazodiphenylamine tetrafluoroborate-formaldehyde copolymer
 80370-33-8 114535-83-0, Fairmount Diazo 8 122525-99-9, Zonyl FSO 100
 126213-51-2, Poly(3,4-ethylenedioxythiophene) 147073-18-5 147073-19-6
 189311-21-5 190086-16-9, Negalux N 18 195460-07-2, AZ 7217
 391957-44-1 391957-45-2 391957-46-3 391957-47-4 391957-48-5
391957-50-9 391957-51-0 391957-52-1 391957-53-2
 391957-54-3 391957-55-4 391957-56-5 391957-57-6 391957-58-7
 391957-59-8 391957-60-1 391957-61-2 391957-62-3 391957-63-4
 391957-64-5 391957-65-6 391957-66-7 391957-68-9 391957-71-4
 391957-73-6 391957-74-7 391957-75-8 391957-76-9
 RL: NUU (Other use, unclassified); USES (Uses)
 (conductive coating dispersion constituent; material and method for
 making electroconductive pattern)
 I40 ANSWER 10 OF 20 HCA COPYRIGHT 2004 ACS on STN
 135:280511 Positive-working **photoresist** compositions showing high
 resolution and high sensitivity and excellent storage stability. Sato,
 Kenichiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP
 2001272784 A2 20011005, 62 pp. (Japanese). CODEN: JKXXAF. APPLICATION:
 JP 2000-385724 20001219. PRIORITY: JP 1999-363302 19991221; JP 2000-10773
 20000119; JP 2000-10774 20000119.
 AB The compns. contain (A) compds. generating acid on irradiation of actinic ray
 or radiation, (B) polymers containing structural repeating unit
 CO2CR1R2(CR3R4)mSiR5R6R7 (R1-2 = (cyclic) alkyl; R3-4 = H, (cyclic) alkyl;
 R1 + R2, R3 + R4 may form cyclic alkyl; R5-7 = (cyclic) alkyl, aryl,
 trialkylsilyl(oxy); m = integer of 1-6) and increasing solubility in alkaline
 developing agents by reaction with acids, (C) organic basic compds., and (D)
 ≥1 of F-containing surfactants, Si-containing surfactants, and nonionic
 surfactants. Preferable structural repeating units also contained in the
 polymers are given in Markush. Also claimed are (1) compns. consisting of
 (A') acid-generating sulfonium salts Rs1S+ Rs2Rs3 2- (Rs1-3 =
 (un)substituted alkyl or aryl; Rs1 + Rs2 may bond via single bond or

bonding group; Z- = anion) and polymers B and (2) compns. consisting of acid generators A, polymers B, and certain surfactants given in the document. The compns. are useful in manufacture of semiconductor devices, printed circuits, liquid crystal panels, etc.

IT **363616-40-4P 363616-65-3P**

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)

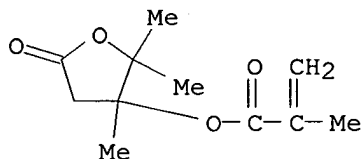
RN 363616-40-4 HCA

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethyl-3-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]propyl ester, polymer with 2,5-furandione, 2-methyl-N-(methylsulfonyl)-2-propenamide and tetrahydro-2,2,3-trimethyl-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 324761-27-5

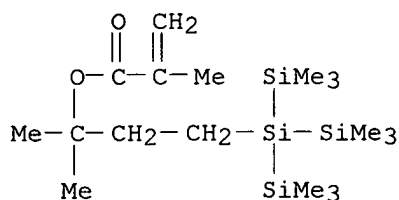
CMF C11 H16 O4



CM 2

CRN 250588-94-4

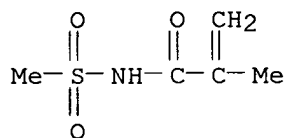
CMF C18 H42 O2 Si4



CM 3

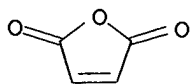
CRN 208761-54-0

CMF C5 H9 N O3 S



CM 4

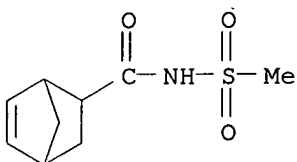
CRN 108-31-6
CMF C4 H2 O3



RN 363616-65-3 HCA
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethyl-3-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]propyl ester, polymer with 2,5-furandione and N-(methylsulfonyl)bicyclo[2.2.1]hept-5-ene-2-carboxamide (9CI) (CA INDEX NAME)

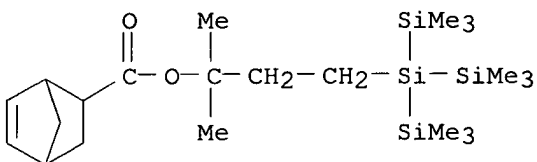
CM 1

CRN 363616-64-2
CMF C9 H13 N O3 S



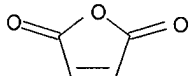
CM 2

CRN 250589-01-6
CMF C22 H46 O2 Si4



CM 3

CRN 108-31-6
CMF C4 H2 O3



IC ICM G03F007-039
ICS C08K005-00; C08L101-08; G03F007-004; G03F007-075; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST pos **photoresist** alk soluble silyl contg polymer; acid generator
pos **photoresist** storage stable; sulfonium salt acid generator

- pos **photoresist**
 IT Polysiloxanes, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (KP 341, surfactant; alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT Positive **photoresists**
 (alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT Sulfonium compounds
 RL: TEM (Technical or engineered material use); USES (Uses)
 (alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT Surfactants
 (fluorosurfactants; alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT Surfactants
 (nonionic, surfactant; alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT Fluoropolymers, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (surfactant; alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT 14159-45-6P 39153-56-5P 66003-76-7P 66003-78-9P 67695-82-3P
 138529-81-4P 144089-15-6P 153698-46-5P 177786-98-0P 206861-54-3P
 241806-75-7P 258341-95-6P 258341-99-0P 279218-73-4P 279218-74-5P
 279218-75-6P 301525-08-6P 312386-77-9P 324771-13-3P 350251-56-8P
 350251-57-9P 363616-18-6P
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (acid generator; alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT 263713-67-3P 363616-30-2P 363616-32-4P 363616-34-6P 363616-36-8P
 363616-38-0P **363616-40-4P** 363616-42-6P 363616-45-9P
 363616-47-1P 363616-49-3P 363616-51-7P 363616-53-9P 363616-56-2P
 363616-59-5P 363616-62-0P **363616-65-3P** 363616-68-6P
 363616-71-1P 363616-74-4P 363616-76-6P 363616-77-7P 363616-78-8P
 363616-81-3P 363616-82-4P 363616-83-5P 363616-85-7P 363616-86-8P
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT 484-47-9, 2,4,5-Triphenyl imidazole 1122-58-3, 4-Dimethylamino pyridine
 6674-22-2, 1,8-Diazabicyclo[5.4.0]-7-undecene
 RL: TEM (Technical or engineered material use); USES (Uses)
 (alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT 96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate 97-64-3,
 Ethyl lactate 108-32-7, Propylene carbonate 110-43-0, 2-Heptanone
 123-86-4, Butyl acetate 1320-67-8, Propylene glycol monomethyl ether
 14272-48-1, 2-Ethoxyethyl propionate 84540-57-8, Propylene glycol
 monomethyl ether acetate 98516-33-7, Propylene glycol monomethyl ether
 propionate
 RL: TEM (Technical or engineered material use); USES (Uses)
 (solvent; alkaline-developing silyl-containing polymer pos. **photoresists** having storage stability)
- IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9, Megafac F176
 216679-67-3, Megafac R08 364039-09-8, Troysol S 336
 RL: TEM (Technical or engineered material use); USES (Uses)
 (surfactant; alkaline-developing silyl-containing polymer pos.

photoresists having storage stability)

L40 ANSWER 11 OF 20 HCA COPYRIGHT 2004 ACS on STN

135:233975 Color filter, manufacture of the filter by using photolysis catalyst, and liquid crystal display device using the filter. Kobayashi, Hironori; Okabe, Masato (Dai Nippon Printing Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001242316 A2 20010907, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-56063 20000228.

AB The color filter has (A) a transparent substrate, (B) a layer containing a photolysis catalyst and a binder, and (C) plurality of multicolor picture elements arranged with spaces among them according to a pattern formed on the catalyst-containing layer by ink-jet printing, wherein coatings are formed on the spaces among the picture elements. The photolysis catalyst-containing layer shows change of wettability, i.e., reduction of liquid contact angle, under exposure on the substrate. Alternatively, parts of the catalyst-containing layer outside the display region are coated. The color filter is manufactured by the process involving formation of the catalyst-containing layer on the transparent substrate, patternwise exposure to radiation on the catalyst-containing layer, ink-jet printing on the exposed portions for forming picture elements, and formation of the coating layer on the spaces among the picture elements. The liquid crystal display uses the color filter, in which liquid crystals are protected, by the coating layers among the picture elements, from being affected with the photolysis catalyst involved in the filter.

IT 358766-42-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(binder in catalyst layer; color filter manufactured by using photolysis catalyst for liquid crystal display device)

RN 358766-42-4 HCA

CN 1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-[3-(trimethoxysilyl)propyl]-, polymer with Glasca HPC 402H (9CI) (CA INDEX NAME)

CM 1

CRN 220356-00-3

CMF Unspecified

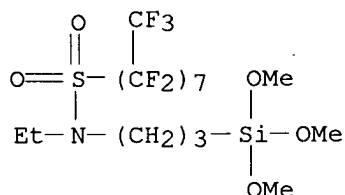
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 61660-12-6

CMF C16 H20 F17 N O5 S Si



IC ICM G02B005-20

ICS B41J002-01; G02F001-1335; G03F007-004

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other **Reprographic** Processes)

Section cross-reference(s): 42

IT Ink-jet printing

Photoimaging materials

(in manufacture of color filter by using photolysis catalyst for liquid crystal display device)

IT **358766-42-4P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(binder in catalyst layer; color filter manufactured by using photolysis catalyst for liquid crystal display device)

L40 ANSWER 12 OF 20 HCA COPYRIGHT 2004 ACS on STN

133:310613 Preparation of polyhedral silsesquioxanes containing perfluoroalkyl and reactive groups and films thereof. Yamashita, Yukiya; Hayashi, Kenji; Ishihara, Masaoki (Mitsubishi Materials Corp., Japan; Dai Nippon Toryo Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 2000290286 A2 20001017, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-93459 19990331.

AB Silsesquioxanes [RfX1(CH2)aSiO1.5]m[R(CH2)bSiO1.5]z and

[RfX1(CH2)aSiO1.5]m[RX2(CH2)bSiO1.5]z (Rf = C1-16 perfluoroalkyl; R = reactive group; X1, X2 = divalent group; a = 1-10; b = 0-10; m, z = 1-19 and m + z = 4-20), useful for manufacture of films with good heat resistance, low dielec. constant, and low reflection, are prepared. Thus, hydrolysis of 28.4 g F17C8CH2CH2Si(OMe)3 and 2.5 g H2C:CHSi(OMe)3 gave a silsesquioxane, which was made into a film (thickness 0.2 μm) having dielec. constant 3.1.

IT **302355-57-3P 302355-61-9P**

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(preparation of polyhedral silsesquioxanes containing perfluoroalkyl and reactive groups and films)

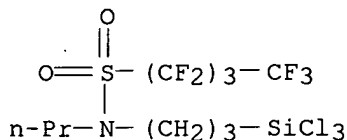
RN 302355-57-3 HCA

CN 1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-propyl-N-[3-(trichlorosilyl)propyl]-, polymer with trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 302355-56-2

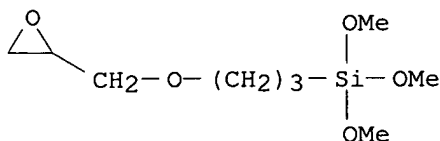
CMF C10 H13 Cl3 F9 N O2 S Si



CM 2

CRN 2530-83-8

CMF C9 H20 O5 Si

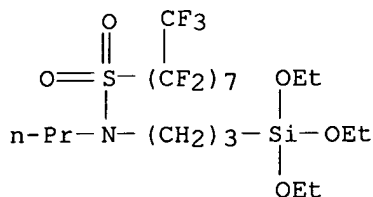


RN 302355-61-9 HCA
 CN 1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-N-propyl-N-[3-(triethoxysilyl)propyl]-, polymer with ethenyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 136790-35-7

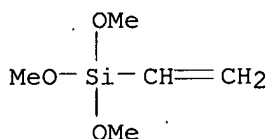
CMF C20 H28 F17 N O5 S Si



CM 2

CRN 2768-02-7

CMF C5 H12 O3 Si



IC ICM C07F007-18
 ICS C07F007-21; C08G077-24; C09K003-18

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 74, 76

IT Antireflective films

Dielectric films

Hybrid organic-inorganic materials

Oil-resistant materials

Photoresists

(preparation of polyhedral silsesquioxanes containing perfluoroalkyl and reactive groups and films)

IT 302355-57-3P 302355-58-4P 302355-59-5P 302355-60-8P
 302355-61-9P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(preparation of polyhedral silsesquioxanes containing perfluoroalkyl and reactive groups and films)

L40 ANSWER 13 OF 20 HCA COPYRIGHT 2004 ACS on STN

132:50663 Polyamide compositions for positive-working **photoresists** with good edge rinse property. Kenmochi, Tomonori; Banba, Toshio; Hirano, Takashi (Sumitomo Bakelite Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11349810 A2 19991221 Heisei, 15 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1998-159535 19980608.

AB The compns. comprise polyamides 100, photo-sensitive diazoquinone compds. 1-100 and F-containing surfactants 0.001-10 parts, where the polyamides bear

units derived from dihydroxylated cyclic diamines, units derived from cyclic dicarboxylic acids, and optionally units derived from siloxanedi-amine compds., and have terminal groups derived from aliphatic or alicyclic dicarboxylic anhydrides containing alkenyl or alkynyl groups. Thus, heating a solution of a 2:1 (mol/mol) 1-hydroxy-1,2,3-benzotriazole derivative

of

di-Ph ether-4,4'-dicarboxylic acid, 2, and hexafluoro-2,2-bis(3-amino-4-hydroxyphenyl)propane 363.3 in N-methyl-2-pyrrolidone 3000 at 75° for 12 h, adding 5-norbornene-2,5-dicarboxylic anhydride 32.8, mixing for 12 h, filtering, adding into a 3/1 water/MeOH mixture and washing the resulting precipitate gave a polyamide (I). Dissolving the I 100 with a diazoquinone 25 and 68% FC 170C (F-containing surfactant) 0.03 in N-methyl-2-pyrrolidone 200 parts, mixing and filtering gave a photo-sensitive resin with good edge rinse property.

IT 252910-49-9

RL: MOA (Modifier or additive use); USES (Uses)
(surfactant; polyamide compns. for pos.-working **photoresists**
with good edge rinse property)

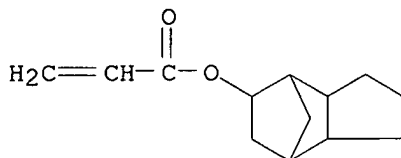
RN 252910-49-9 HCA

CN 2-Propenoic acid, 2-[[heptadecafluorooctyl)sulfonyl]propylamino]ethyl ester, polymer with dimethylsilanediol, ethenylmethylsilanediol, 3a,4,7,7a,?,?-hexahydro-4,7-methano-1H-indenyl 2-propenoate and octahydro-4,7-methano-1H-inden-5-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 7398-56-3

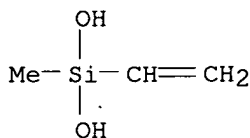
CMF C13 H18 O2



CM 2

CRN 3959-12-4

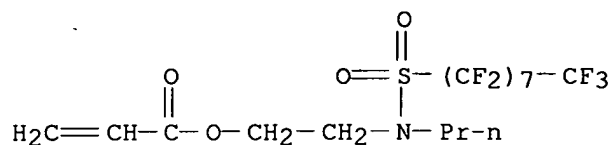
CMF C3 H8 O2 Si



CM 3

CRN 2357-60-0

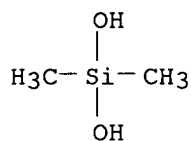
CMF C16 H14 F17 N O4 S



CM 4

CRN 1066-42-8

CMF C2 H8 O2 Si



CM 5

CRN 12542-30-2

CMF C13 H16 O2

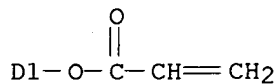
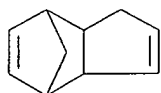
CCI IDS

CM 6

CRN 50976-02-8

CMF C13 H14 O2

CCI IDS



IC ICM C08L077-06

ICS C08G069-26; C08G077-455; C08K005-00; C08K005-43; C08K005-23

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 74

ST pos working **photoresist** polyamide compn; diphenyl ether dicarboxylic acid polyamide pos working **photoresist**; fluoro surfactant pos working **photoresist**; edge rinse property pos working **photoresist**; diazoquinone photocuring catalyst **photoresist** polyamide

IT Electric insulators

Photoimaging materials

Positive **photoresists**

Semiconductor devices

Surfactants

- (polyamide compns. for pos.-working **photoresists** with good edge rinse property)
- IT Polyamides, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyamide compns. for pos.-working **photoresists** with good edge rinse property)
- IT Polysiloxanes, properties
Polysiloxanes, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyamide-; polyamide compns. for pos.-working **photoresists** with good edge rinse property)
- IT Polyamides, properties
Polyamides, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polysiloxane-; polyamide compns. for pos.-working **photoresists** with good edge rinse property)
- IT 110726-28-8D, diazoquinone derivative
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(photosensitive reagents; polyamide compns. for pos.-working **photoresists** with good edge rinse property)
- IT 252903-80-3 252903-81-4 252903-83-6 252903-84-7
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyamide compns. for pos.-working **photoresists** with good edge rinse property)
- IT 29117-08-6 **252910-49-9**
RL: MOA (Modifier or additive use); USES (Uses)
(surfactant; polyamide compns. for pos.-working **photoresists** with good edge rinse property)
- L40 ANSWER 14 OF 20 HCA COPYRIGHT 2004 ACS on STN
- 131:146036 Fluorine-containing surfactants for leveling agents. Tanaka, Kazuyoshi; Takano, Kiyoshi; Hashimoto, Yutaka (Dainippon Ink and Chemicals, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 11209787 A2 19990803 Heisei, 39 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-15407 19980128.
- AB Surfactants useful as leveling agents in coating compns. and **resist** compns. comprise fluoroalkyl-containing compds. with surface energy loss <110 + 10⁻⁵ mJ in an organic solvent. A fluorine-containing surfactant of this invention was prepared by polymerizing 18 parts of CH₂:CHCO₂CH₂CH₂C₈F₁₇, 12 parts of γ -methacryloyloxypropyltris(trimethylsilyloxy)silane, 57 parts of monoacrylate of ethylene oxide-propylene oxide copolymer of mol. weight 400, 4 parts of tetraethylene glycol dimethacrylate, and 9 parts of Me methacrylate using laurylmercaptan as chain-transfer agent. The surfactant had number-average mol. weight 3800 and
- was used as leveling agent in a coating composition
- IT **236104-13-5P**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine-containing surfactants for leveling agents)
- RN 236104-13-5 HCA
- CN 2-Propenoic acid, 2-methyl-, oxybis(2,1-ethanedioxy-2,1-ethanedioyl) ester, polymer with 2-[[heptadecafluorooctyl)sulfonyl]propylamino]ethyl 2-propenoate, methyl 2-methyl-2-propenoate, α -(1-oxo-2-propenyl)-

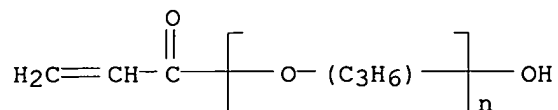
ω -hydroxypoly(oxy-1,2-ethanediyl), α -(1-oxo-2-propenyl)-
 ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI)
 (CA INDEX NAME)

CM 1

CRN 50858-51-0

CMF (C3 H6 O)_n C3 H4 O2

CCI IDS, PMS

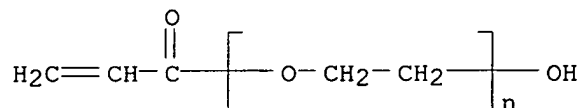


CM 2

CRN 26403-58-7

CMF (C2 H4 O)_n C3 H4 O2

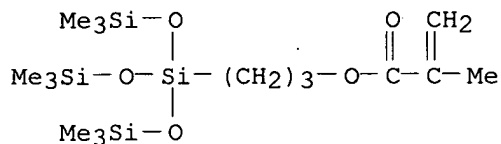
CCI PMS



CM 3

CRN 17096-07-0

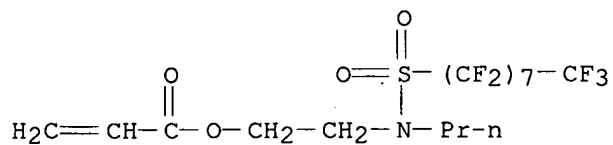
CMF C16 H38 O5 Si4



CM 4

CRN 2357-60-0

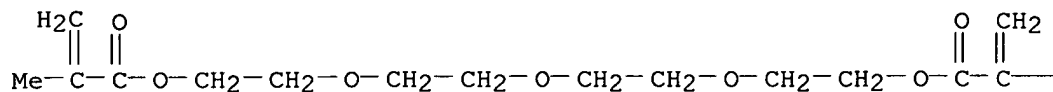
CMF C16 H14 F17 N O4 S



CM 5

CRN 109-17-1
CMF C16 H26 O7

PAGE 1-A

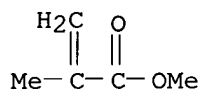


PAGE 1-B

—Me

CM 6

CRN 80-62-6
CMF C5 H8 O2



- IC ICM C11D001-04
ICS B01F017-52; B01F017-54; C08F020-24; C08F030-08; C08F290-06;
C09D007-06; C11D001-12; C11D001-34; C11D001-68; C11D001-72;
C11D001-722; C11D001-74; G03F007-004
- CC 46-4 (Surface Active Agents and Detergents)
Section cross-reference(s): 42, 74
- IT **Resists**
(fluorine-containing surfactants for leveling agents for **resist** compns.)
- IT 212628-37-0P **236104-13-5P** 236104-14-6P 236104-71-5P
236104-72-6P 236104-73-7P 236104-74-8P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine-containing surfactants for leveling agents)
- L40 ANSWER 15 OF 20 HCA COPYRIGHT 2004 ACS on STN
129:232038 Fluoroalkyl- and siloxane-containing polymer surfactants and
coating and **photoresist** compositions containing them. Tanaka,
Kazuyoshi; Takano, Kiyoshi; Hashimoto, Yutaka (Dainippon Ink and
Chemicals, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 10230154 A2 19980902
Heisei, 36 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-33717
19970218.
- AB The surfactants consist of copolymers of fluoroalkyl group-containing
ethylenically unsatd. monomers and other ethylenically unsatd. monomers
having R6(SiR4R5O)pSiR4R5OSiR2R3 group [R2, R3 = C1-20 alkyl, Ph,
R9(SiR7R8O)pSiR7R8O; R4-9 = C1-20 alkyl, Ph; p = 0-3]. The compns. show
excellent leveling properties in a coating process at high speed and
shear. Thus, CH2:CHCO2CH2CH2C8F17 18, (Me3SiO)3Si(CH2)3OCOCMe:CH2 12,
ethylene oxide-propylene oxide copolymer monoacrylate 58, tetraethylene

glycol dimethacrylate 4, and Me methacrylate 8 parts were copolymd. in Me2CHOH in the presence of AIBN and lauryl mercaptan to give a polymer (Mn 3500), which was added to acrylic or alkyd-melamine coatings to show good antifoaming, leveling, and recoating properties.

IT **212628-36-9P**

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)

(fluoroalkyl- and siloxane-containing polymer surfactants for improved antifoaming, recoating, and leveling properties of coatings and photoresists)

RN 212628-36-9 HCA

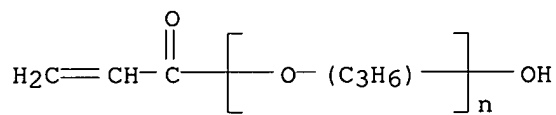
CN 2-Propenoic acid, 2-methyl-, oxybis(2,1-ethanediyl-oxy-2,1-ethanediyl) ester, polymer with 2-[(heptadecafluorooctyl)sulfonyl]propylamino]ethyl 2-propenoate, methyl 2-methyl-2-propenoate, α -(1-oxo-2-propenyl)- ω -hydroxypoly(oxy-1,2-ethanediyl), α -(1-oxo-2-propenyl)- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 50858-51-0

CMF (C3 H6 O)_n C3 H4 O2

CCI IDS, PMS

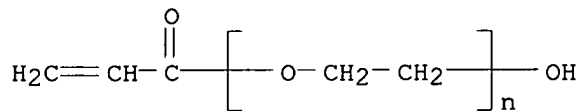


CM 2

CRN 26403-58-7

CMF (C2 H4 O)_n C3 H4 O2

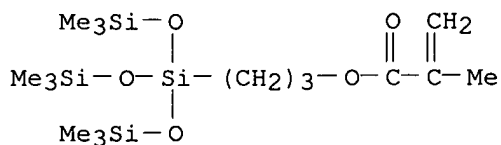
CCI PMS



CM 3

CRN 17096-07-0

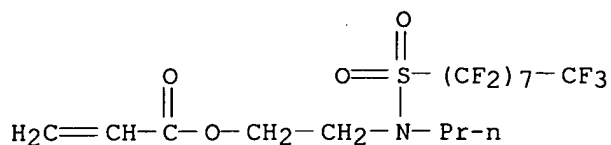
CMF C16 H38 O5 Si4



CM 4

CRN 2357-60-0

CMF C16 H14 F17 N O4 S

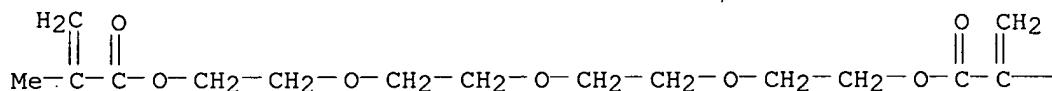


CM 5

CRN 109-17-1

CMF C16 H26 O7

PAGE 1-A



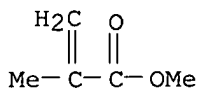
PAGE 1-B

—Me

CM 6

CRN 80-62-6

CMF C5 H8 O2



IC ICM B01F017-54

ICS C08F220-22; C08F230-08; C08F290-06

CC 42-5 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

ST siloxane fluoroalkyl acrylate polymer antifoaming coating; leveling agent
 fluoroalkyl acrylate siloxane polymer; **photoresist** surfactant
 siloxane fluoroalkyl acrylate polymer

IT Alkyd resins

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
 engineered material use); USES (Uses)

(Beckosol WB 703; fluoroalkyl- and siloxane-containing polymer surfactants
 for improved antifoaming, recoating, and leveling properties of
 coatings and **photoresists**)

IT Polyoxyalkylenes, uses

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP

(Properties); PREP (Preparation); USES (Uses)
 (acrylic, graft; fluoroalkyl- and siloxane-containing polymer surfactants for improved antifoaming, recoating, and leveling properties of coatings and **photoresists**)

IT Aminoplasts

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(alkyd resins crosslinked with; fluoroalkyl- and siloxane-containing polymer surfactants for improved antifoaming, recoating, and leveling properties of coatings and **photoresists**)

IT Antifoaming agents

Coating materials

Leveling agents

Photoresists

Surfactants

(fluoroalkyl- and siloxane-containing polymer surfactants for improved antifoaming, recoating, and leveling properties of coatings and **photoresists**)

IT Acrylic polymers, uses

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(fluoroalkyl- and siloxane-containing polymer surfactants for improved antifoaming, recoating, and leveling properties of coatings and **photoresists**)

IT 9003-08-1, Super Beckamine L 117-60

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(alkyd resins crosslinked with; fluoroalkyl- and siloxane-containing polymer surfactants for improved antifoaming, recoating, and leveling properties of coatings and **photoresists**)

IT 191667-44-4P **212628-36-9P** 212628-37-0P 212716-56-8P

212716-57-9P 212716-58-0P 212716-59-1P 212716-60-4P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)

(fluoroalkyl- and siloxane-containing polymer surfactants for improved antifoaming, recoating, and leveling properties of coatings and **photoresists**)

IT 9016-83-5, Cresol-formaldehyde copolymer 68510-93-0,

2,3,4-Trihydroxybenzophenone 1,2-naphthoquinonediazide-5-sulfonate

122176-95-8, Acrylic A 181 193560-18-8, Acrylic A 801P-Burnock DN 980 copolymer 212897-02-4

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(fluoroalkyl- and siloxane-containing polymer surfactants for improved antifoaming, recoating, and leveling properties of coatings and **photoresists**)

L40 ANSWER 16 OF 20 HCA COPYRIGHT 2004 ACS on STN

128:121756 Positive image-forming composition. Kawamura, Koichi; Uenishi, Kazuya (Fuji Photo Film Co., Ltd., Japan). Eur. Pat. Appl. EP 814381 A1 19971229, 49 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI. (English). CODEN: EPXXDW. APPLICATION: EP 1997-110034 19970619. PRIORITY: JP 1996-160276 19960620; JP 1996-190939 19960719.

AB A pos. image-forming composition comprises (a) a compound generating an acid by the action of light or heat and (b) at least one compound selected from the N-sulfonylamide compds. represented by the formula $L1(SO2NR2COR1)n$ or $L1(CONR2SO2R1)n$ wherein n is an integer of from 1 to 6, R1 represents an aromatic group or an alkyl group, L1 represents an aromatic group or an alkyl

group when n is 1 or L1 represents a polyvalent linkage group constituted of nonmetal atoms when n is from 2 to 6, and R2 represents a tertiary alkyl group, an alkoxymethyl group, an arylmethyl group, or an alicyclic alkyl group or (c) a polymer having constitutional units represented by the formula -SO₂NR₃CO- wherein R₃ represents a tertiary alkyl group, an alkoxymethyl group, an arylmethyl group, or an alicyclic alkyl group.

IT **201656-56-6**

RL: TEM (Technical or engineered material use); USES (Uses)
(pos. **photoresists** containing)

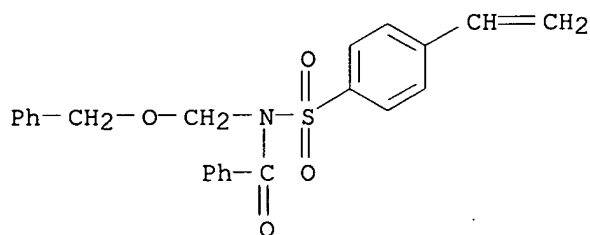
RN 201656-56-6 HCA

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with
N-[(4-ethenylphenyl)sulfonyl]-N-[(phenylmethoxy)methyl]benzamide (9CI)
(CA INDEX NAME)

CM 1

CRN 201656-55-5

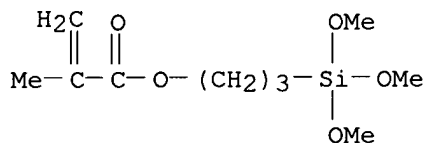
CMF C23 H21 N O4 S



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



IT **201656-50-0P**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and use in preparing pos. **photoresists**)

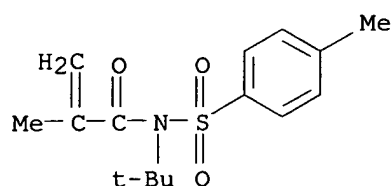
RN 201656-50-0 HCA

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with
N-(1,1-dimethylethyl)-2-methyl-N-[(4-methylphenyl)sulfonyl]-2-propenamide
(9CI) (CA INDEX NAME)

CM 1

CRN 201656-49-7

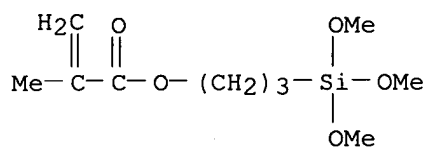
CMF C15 H21 N O3 S



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



IC ICM G03F007-004
ICS G03F007-039

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

ST pos **photoimaging** compn lithog plate; sulfonylamide photoacid
generator pos **photoimaging** compn; thermal acid generator pos
photoimaging compn

IT Positive **photoresists**
(containing thermal or photochem. acid generators)

IT Integrated circuits
Lithographic plates
Semiconductor devices
(pos. **photoimaging** compns. containing thermal or photochem. acid
generators for manufacture of)

IT **Photoimaging** materials
(pos.; containing thermal or photochem. acid generators)

IT 201656-41-9 201656-43-1 201656-44-2 201656-45-3 201656-46-4
201656-47-5
RL: TEM (Technical or engineered material use); USES (Uses)
(photochem. acid generator for pos. **photoresists**)

IT 548-62-9, Crystal violet 27029-76-1, m-Cresol-p-cresol-formaldehyde
copolymer 68541-73-1 201656-53-3 201656-54-4 **201656-56-6**
201656-57-7 201656-59-9 201656-61-3 201656-63-5 201656-65-7
201656-67-9 201656-68-0
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. **photoresists** containing)

IT 77-58-7 85-44-9, 1,3-Isobenzofurandione 95-57-8, o-Chlorophenol
22371-56-8, NK-3508 38686-70-3 69432-40-2 117283-53-1, Victoria Pure
Blue BOH 1-naphthalenesulfonate
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. **photoresists** containing sulfonylamide photoacid generators
and)

IT 201656-49-7P
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); RACT (Reactant or reagent);
USES (Uses)
(preparation and reaction in preparing photochem. acid generator for pos.

photoresists)

IT 153698-69-2P 201656-52-2P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation and use as dissoln. inhibitor for pos. **photoresists**)

IT 201656-40-8P 201656-42-0P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation and use as photochem. acid generator for pos. **photoresists**)

IT 24979-70-2DP, Poly(p-hydroxystyrene), reaction products with tert-Bu bromoacetate 125325-82-8P 129674-22-2P, p-tert-Butoxycarbonyloxystyrene-p-hydroxystyrene copolymer **201656-50-0P** 201656-51-1P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation and use in preparing pos. **photoresists**)

IT 76937-83-2, $\alpha, \alpha, \alpha', \alpha', \alpha'', \alpha''$ -Hexakis(4-hydroxyphenyl)-1,3,5-triethylbenzene 110726-28-8, 1-[α -Methyl- α -(4'-hydroxyphenyl)ethyl]-4-[α', α' -bis(4''-hydroxyphenyl)ethyl]benzene
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (reaction in preparing dissoln. inhibitor for pos. **photoresists**)

IT 121-44-8, reactions 920-46-7, Methacrylic chloride 2849-81-2 3587-60-8, Benzyl chloromethyl ether 201656-48-6
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (reaction in preparing photochem. acid generator for pos. **photoresists**)

I40 ANSWER 17 OF 20 HCA COPYRIGHT 2004 ACS on STN

126:299683 **Photoresist** composition with improved coatability.
 Hashimoto, Yutaka; Tanaka, Kazuyoshi (Dainippon Ink & Chemicals, Japan).
 Jpn. Kokai Tokkyo Koho JP 09054432 A2 19970225 Heisei, 22 pp. (Japanese).
 CODEN: JKXXAF. APPLICATION: JP 1995-210641 19950818.

AB The title composition contains a copolymer of fluoroalkyl group-containing (meth)acrylate monomers and silicone chain-containing ethylenic unsatd. monomers. The composition shows good coatability upon spin-coating and storage stability, and gives fine patterns.

IT **189084-87-5P**
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (**photoresist** composition containing copolymer of fluoroalkyl (meth)acrylate and silicone-containing ethylenic compound)

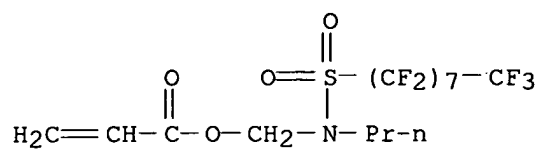
RN 189084-87-5 HCA

CN 2-Propenoic acid, 2-methyl-, oxybis(2,1-ethanediylloxy-2,1-ethanediyl) ester, polymer with [(heptadecafluorooctyl)sulfonyl]propylamino)methyl 2-propenoate, methyl 2-methyl-2-propenoate, methyloxirane polymer with oxirane 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 94422-64-7

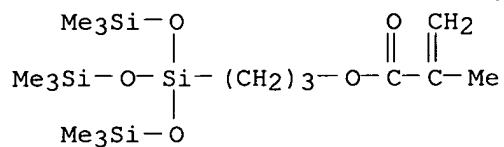
CMF C15 H12 F17 N O4 S



CM 2

CRN 17096-07-0

CMF C16 H38 O5 Si4

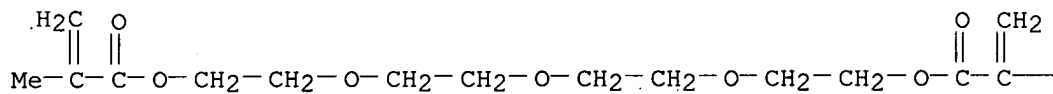


CM 3

CRN 109-17-1

CMF C16 H26 O7

PAGE 1-A



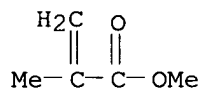
PAGE 1-B

—Me

CM 4

CRN 80-62-6

CMF C5 H8 O2



CM 5

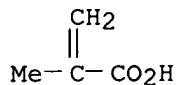
CRN 58916-75-9

CMF C4 H6 O2 . (C3 H6 O . C2 H4 O)x

CM 6

CRN 79-41-4

CMF C4 H6 O2



CM 7

CRN 9003-11-6

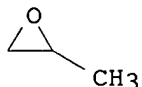
CMF (C3 H6 O . C2 H4 O)x

CCI PMS

CM 8

CRN 75-56-9

CMF C3 H6 O



CM 9

CRN 75-21-8

CMF C2 H4 O



IC ICM G03F007-027
ICS G03F007-038; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

ST **photoresist** fluoroalkyl acrylate graft copolymer; silicone
ethylenic graft copolymer **photoresist**

IT Polysiloxanes, preparation
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(acrylic, graft; **photoresist** composition containing copolymer of
fluoroalkyl (meth)acrylate and silicone-containing ethylenic compound)

IT Polyoxyalkylenes, preparation
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(acrylic, siloxanes, graft; **photoresist** composition containing
copolymer of fluoroalkyl (meth)acrylate and silicone-containing ethylenic
compound)

IT **Photoresists**
(**photoresist** composition containing copolymer of fluoroalkyl
(meth)acrylate and silicone-containing ethylenic compound)

IT 188979-82-0P 188979-83-1P 188980-15-6P 188980-17-8P 189084-82-0P

189084-83-1P 189084-86-4P **189084-87-5P**

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photoresist composition containing copolymer of fluoroalkyl (meth)acrylate and silicone-containing ethylenic compound)

L40 ANSWER 18 OF 20 HCA COPYRIGHT 2004 ACS on STN

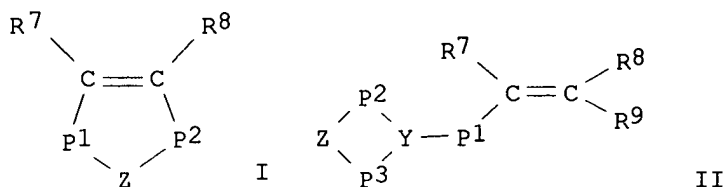
122:20500 positive-working **photoresist** composition. Aoso, Toshiaki;

Mizutani, Kazuyoshi (Fuji Photo Film Co Ltd, Japan). Jpn. Kokai Tokkyo

Koho JP 06027670 A2 19940204 Heisei, 45 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 1991-12540 19910111.

GI



AB The title **photoresist** composition contains (1) a polysiloxane compound containing ≥ 1 mol% siloxane unit obtained by cyclic thermal addition reaction of $R_1R_2C=CR_3C(SiX_1X_2X_3)=CR_4R_5$, $R_1R_2C=CR_3CR_4=CR_5(SiX_1X_2X_3)$, etc. with $R_7C(QP_1)=CR_8R_9$, I, II, $QP_1C.tplbond.CR_9$ [$R_1-5 = H$, alkyl, aryl, silyl, siloxy; $R_7-9 = H$, alkyl, alkoxy, aryl, CN, NO₂, -P₁Q, etc.; R_7 and R_8 , or R_7 and P_1 may form a ring; $X_1-3 = OH$, hydrolyzable group; $P_1-3 =$ single bond, alkylene, arylene; $Y =$ trivalent aromatic group; $Q =$ acid group of $pK_a \leq 12$; Z], and (2) a α -diazoketone compound or 2-diazo-1,3-diketone compound. Fine **resist** patterns can be obtained with this composition.

IT **159438-77-4**

RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(ladder, pos.-working **photoresist** composition from)

RN 159438-77-4 HCA

CN Benzenesulfonamide, ar-[1,3,3a,4,7,7a-hexahydro-1,3-dioxo-4-(trimethoxysilyl)-2H-isoindol-2-yl]-, homopolymer (9CI) (CA INDEX NAME)

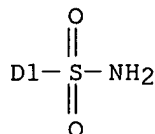
CM 1

CRN 159438-76-3

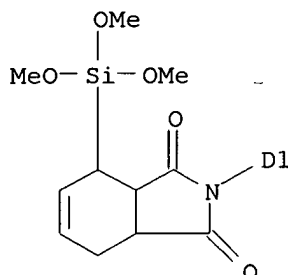
CMF C17 H22 N2 O7 S Si

CCI IDS

PAGE 1-A



PAGE 2-A



- IC ICM G03F007-075
ICS C08L083-04; G03F003-10; G03F007-00; G03F007-038; G03F007-16;
H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
- ST pos working **photoresist** compn silsesquioxane
- IT Silsesquioxanes
RL: DEV (Device component use); POF (Polymer in formulation); TEM
(Technical or engineered material use); USES (Uses)
(pos.-working **photoresist** composition from)
- IT **Resists**
(**photo-**, composition, pos.-working, from silsesquioxane and
diazoketone compound)
- IT 158828-98-9 158829-00-6 158829-03-9 159438-75-2 **159438-77-4**
159519-41-2 159519-42-3
RL: DEV (Device component use); POF (Polymer in formulation); TEM
(Technical or engineered material use); USES (Uses)
(ladder, pos.-working **photoresist** composition from)
- IT 123153-97-9 125009-92-9
RL: DEV (Device component use); TEM (Technical or engineered material
use); USES (Uses)
(ladder, pos.-working **photoresist** composition from)
- L40 ANSWER 19 OF 20 HCA COPYRIGHT 2004 ACS on STN
121:217658 Water-developable oxygen plasma-resistant **photoresist**.
Aoso, Toshiaki; Mizutani, Kazuyoshi (Fuji Photo Film Co Ltd, Japan). Jpn.
Kokai Tokkyo Koho JP 06059458 A2 19940304 Heisei, 47 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1991-12671 19910111.
- AB The title **photoresist** comprises a polysiloxane containing ≥ 1

mol% of siloxane units derived from the cyclization-thermal addition products of organosilicon compds. and a photosensitive azide. The title neg.-working **photoresist** is useful in making lithog. plates, in color proofing, in making transparencies for overhead projectors, and in fine patterning for semiconductor device fabrication.

IT **158257-47-7P 158257-54-6P**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(Water-developable oxygen plasma-resistant **photoresist** containing)

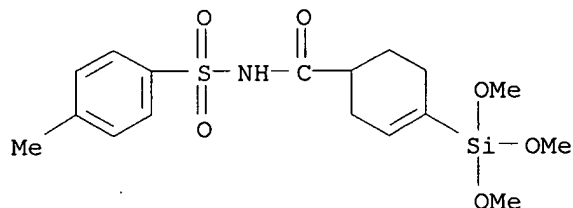
RN 158257-47-7 HCA

CN 3-Cyclohexene-1-carboxamide, N-[(4-methylphenyl)sulfonyl]-4-(trimethoxysilyl)-, polymer with (4-chlorophenyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 158257-46-6

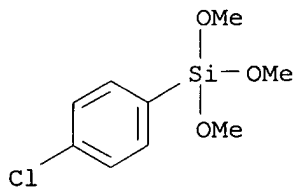
CMF C17 H25 N O6 S Si



CM 2

CRN 35692-30-9

CMF C9 H13 Cl O3 Si



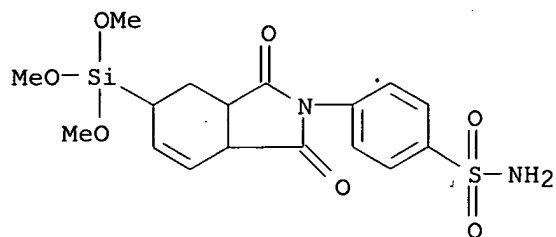
RN 158257-54-6 HCA

CN Benzenesulfonamide, 4-[1,3,3a,4,5,7a-hexahydro-1,3-dioxo-5-(trimethoxysilyl)-2H-isoindol-2-yl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 158257-53-5

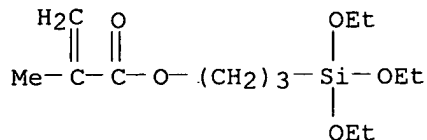
CMF C17 H22 N2 O7 S Si



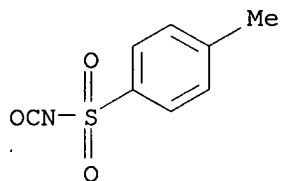
- IC ICM G03F007-075
ICS C08L083-04; G03F003-10; G03F007-00; G03F007-008; G03F007-038;
H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
- ST **photoresist** polysiloxane azide
- IT Silsesquioxanes
RL: SPN (Synthetic preparation); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(Water-developable oxygen plasma-resistant **photoresist**)
- IT Lithographic plates
(Water-developable oxygen plasma-resistant **photoresist** for)
- IT Semiconductor devices
(Water-developable oxygen plasma-resistant **photoresist** for
fabrication of)
- IT **Resists**
(**photo-**, polysiloxane- and azide-containing)
- IT 5284-79-7, 2,6-Di(4'-azidobenzal)-4-methylcyclohexanone 5284-80-0
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
(Reactant or reagent); USES (Uses)
(Water-developable oxygen plasma-resistant **photoresist**
containing)
- IT 158257-43-3P 158257-45-5P **158257-47-7P** 158257-50-2P
158257-52-4P **158257-54-6P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(Water-developable oxygen plasma-resistant **photoresist**
containing)
- L40 ANSWER 20 OF 20 HCA COPYRIGHT 2004 ACS on STN
- 80:121507 Light-sensitive polymers. Wolff, Erich (Agfa-Gevaert A.-G.). Ger.
Offen. DE 2217744 19731018, 13 pp. (German). CODEN: GWXXBX.
APPLICATION: DE 1972-2217744 19720413.
- AB **Photoresists** having improved adhesion to oxidized silicon
[7440-21-3] semiconductors contain functional silane substituents. Thus,
dropwise addition of hydroxypropyl methacrylate 289.5, Sn octanoate 1, and
MeOC2H4OAc 236 parts to 400 parts p-toluenesulfonyl isocyanate and 800
parts MeOC2H4OAc, stirring 10 hr at 45.deg., and stirring this solution 500,
3-(triethoxysilyl)propyl methacrylate 8.5, and azobisisobutyronitrile 2
parts 5 hr at 65.deg. and 10 hr at 75.deg. gives a 40% solution of
hydroxypropyl methacrylate-3-(triethoxysilyl)propyl methacrylate-p-
toluenesulfonyl isocyanate copolymer (I) [51293-70-0]. Oxidized
Si with an 0.8 μ coating of I containing 2% diaziiodibenzal cyclohexanone,
illuminated with an Hg lamp, solvent-developed, and etched in NH4F-HF
solution shows excellent image clarity.
- IT **51293-70-0**
RL: USES (Uses)
(**photoresists**, with improved adhesion to oxidized silicon)

RN	51293-70-0	HCA
CN	2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol, polymer with 4-methylbenzenesulfonyl isocyanate and 3-(triethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)	

CRN 21142-29-0
CMF C13 H26 O5 Si

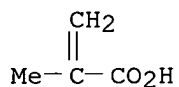


CRN 4083-64-1
CMF C8 H7 N O3 S

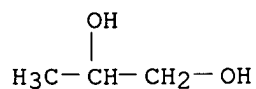


CRN 27813-02-1
CMF C7 H12 O3
CCI IDS

CRN 79-41-4
CMF C4 H6 O2



CRN 57-55-6
CMF C3 H8 O2



IC G03C
CC 35-3 (Synthetic High Polymers)
Section cross-reference(s): 71
ST adhesion **photoresist** silicon; semiconductor silicon
photoresist; silylpropyl methacrylate **photoresist**
IT Adhesion
(of oxidized silicon semiconductors, to **photoresists**)
IT **Resists**
(**photo-**, with improved adhesion to oxidized silicon
semiconductors)
IT Semiconductor materials
(silicon, **photoresists** with improved adhesion to)
IT **51293-70-0** 52292-16-7
RL: USES (Uses)
(**photoresists**, with improved adhesion to oxidized silicon
semiconductors)
IT 7440-21-3D, Silicon, oxidized, uses and miscellaneous
RL: USES (Uses)
(semiconductors, **photoresists** with improved adhesion to)

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